

## SCIENTIFIC MISCELLANY.

Constant Battery—House Lighting—Anti-Fat of Greece.

### THE CORSICA'S CHESTNUTS.

Measurement of Taste—Oxygen for Sea-sickness—Hall-Cloud Bombardment—Blood-Temperature—India's Manna.

In the new electric battery of Poppenberg, the positive electrode is a hollow cylinder of retort carbon filled with polarizing material and closed at the bottom by an insulating plate, the negative is a cylinder of zinc, and the two rest on a horizontal porous plate or diaphragm, beneath which is a thick layer of sulphate of soda, with or without a little common salt. When water is poured into the cell, part of it passes through the porous diaphragm, dissolving the salt. The solution passes by endosmosis into the water above, forming an electrolyte that varies but slightly with time, and causes the battery to retain its strength for a long period. The electromotive force is about two volts.

The color and character of the walls have much to do with the lighting of a room, and experiments have shown these percentages of reflection by different wall materials: Black velvet, 0.4; black cloth, 1.3; black paper, 4.5; dark blue, 6.5; dark green, 10.1; pale red 16.2; dark yellow, 20; pale blue, 30; pale yellow, 40; pale green, 46.5; pale orange, 54.8; pure white, 70; mirror covering, 92; Dull or varnished paint also has effect. Aside from mirrored walls, white varnish ensures the best lighted room, and this may be advantageously used in conjunction with incandescent gas light as the most economical source of artificial illumination.

Of nearly 500 treatises, mostly on medicine, alleged to have been written by Galen, less than 100 accepted as genuine are now known. A hitherto unknown Greek text on the lessening of obesity has just been published by Dr. Kallibfleisch, of Freiburg. Among the recommendations are to eat birds which are found in arid mountains and fish which frequent rocky shores, and to avoid vegetables which are round.

Records of more than 5,000 observations showing the deviation of the magnetic needle from the voyage of Columbus in 1492 to 1750, have been collected by a German physicist.

Probably no modern discovery in natural history has been more seemingly miraculous than the finding of an edible gum exuding from the bamboos of Central India at a time when people are suffering from their greatest famine. This substance is pleasantly sweet, occurs in white or brown stactiform rods about an inch long, and is found by David Hooper, of the Indian museum at Calcutta, to consist mainly of a sugar related to, if not identical with, cane sugar. The strange appearance of the bamboo forests of Chanda was first made known last March. The sugar differs from the bamboo manna of history, which is not a sugar, but a white gritty body occurring inside the stem of the plant, and now called *tabashir* by Europeans. *Tabashir* contains about 80 per cent of silica, with varying proportions of alkalies and organic matter. It has been much used in medicine.

Wherever extensive forests cover the land special industries are growing at their expense. Immense forests of sweet chestnut trees exist in Corsica, and the most flourishing industry of island is probably the extracting of tannic acid from these trees, about 20,000 tons of the wood being now required annually for the 4,000 tons of liquid extract sent away. Without compulsory planting, this wholesale destruction of forests is likely to bring serious consequences in time. It is feared that not only will the climate be affected, but that the peasants will suffer the loss of their staple food of flour from the dried fruit of the chestnut.

Attempts to measure the sensation of taste are being made by E. Toulouse and V. Vasschide, French physiologists. They test with sodium chloride for salty tastes, saccharose for sweet tastes, dibromhydrate of quinine for bitter and citric acid for sour—solutions of these substances, varying in strength along a decimal scale, being prepared with distilled water. A special dropper gives drops of unvarying size. Another series of solutions is used for determining "odor tastes," which, as with anise or vinegar—are ordinarily experienced, but disappear when the nose is stopped.

With the universal use of electric light instead of oil, gas and candles, an English statistician calculates that the United Kingdom would have 40,000 less deaths annually.

The disappearance of consumption within a period of 60 years is recorded as a prediction of Sir James Crishton Browne. This is to be largely a result of more open air and sunlight in cities.

The inhalation of oxygen as a remedy for sea-sickness was first suggested by Dr. Dubois of Lyons. The idea has been taken up by M. L. Dutremblay, who has made numerous successful experiments, and has brought the matter to the attention of the French academy of medicine. The malady proves to be due to imperfect ventilation of the lungs. The sudden and rapid displacement of the viscera and the contraction of the diaphragm act as principal causes, and bring about such secondary manifestations as headache, nausea, chills, etc. The oxygen gives rapid relief. It is inhaled through the mouth from cylinders of the compressed gas, and eight or ten gallons suffice.

The Italian system of cannon firing for preventing hail was recently put to a severe test, with results that exceeded expectations. Threatening clouds collected in the neighborhood of Rogeno, in the province of Como, three times in succession on one afternoon, and each time they were bombarded by fourteen

special cannon. The clouds were scattered, only a little sleet falling. In the vicinity of Alessandria great damage was done by hail, which fell over the districts of Rocchetta, Tamara, Masio, Felizzano and Quatterio, in some places piling up to a depth of twenty inches.

The animals having the warmest blood seem to be some of the cetaceans. Dr. Guldberg reports that observations made with great difficulty have given the following results in individual cetaceans: Sperm whale, 40 degrees C; Greenland right whale, 38.80 degrees; porpoise, 35.60 and 37.80; common porpoise, 35.40; dolphin, 35.5. The average blood temperature of man is 37 degrees C, that of other mammals being 39, while that of birds is 42 degrees.

Orthodoxybenzol, which has been given the name of Elconal by Dr. Ludwig Ellon, seems to have proven very satisfactory as a photographic developer. This has the unique property of admitting mixture with sodium hyposulphite in all proportions, making possible a combined developing and fixing bath.

The earth within the Arctic Circle supports a considerable population, but the Antarctic Circle is without trace of human life. Upon 80,000,000 square miles surrounding the south pole the foot of man has never trodden. Dr. F. A. Cook dissents from the general belief that this vast waste offers nothing to repay investigation, and points out that whales, seals and penguins are abundant, that immense deposits of guano exist and that the region is especially adapted to the farming of fur-bearing animals. Possible future industries are thus suggested. The prospect, however, is a forlorn one to the home-seeker, as beyond the Antarctic Circle the line of perpetual snow extends to the seashore, and only an occasional island or cape is bare for a few weeks in summer. The coast is made inaccessible by an almost unbroken ice wall from 50 to 200 feet high. There are no trees or plants except a few mosses and lichens upon rocks too steep to hold snow, yet animal life seems to be well distributed. The average temperature is low, though the extremes are less than in Arctic regions. Dr. Cook has experienced 60 degrees above zero in summer, to 53 degrees below in winter in the north, while in the south the mercury went to 45 degrees below in winter, but did not reach 2 degrees above on any day in summer. The Antarctic temperature is less trying than the excessive humidity, and the gales and snowstorms which are almost continuous through the year.

An air perfume, in two papers, on the plan of selditz powders, is a French idea. The white paper contains biniodide of barium, saturated with a concentrated perfume, while the colored paper holds powdered permanganate of potash, in the proper proportions to liberate oxygen when the two powders are dissolved together. The liberated ozone or oxygen carries the perfume into the air, which it disinfects at the same time.

An amorphous silicon that is so active as to burn when gently heated in the air is produced by two German chemists by causing sodium to act on the fluoride of silicon and subsequently fusing the powdered mass with aluminum.

The red end of the spectrum has been found to be exciting to the nervous system. Henri de Parville points out, while violet, blue and green have a soothing effect. Bulls and turkeys are angered by red; blue glasses are sometimes used to quiet horses. In a factory at Lyons sensitive plates were formerly made by red light, and the workmen continually sang or gesticulated; but in the green light now used the men are calm, talk little, and are less tired at night. The effect of sunshine in cheering nervous patients is often very marked. It has been further suggested that the green of vegetation, the blue of the sky and the blue-green of the ocean may powerfully effect health through their calming influence. With such evidence as we have of the effects of colors on the organism, De Parville considers the subject worthy of thorough investigation.

A new arc lamp, which seems to be of German origin, is designed to avoid the inconvenience of regularly renewing the carbons. It consists of a vacuum bulb containing two L shaped aluminum rods pointed with platinum, and it is claimed that the points between which the arc forms show practically no wear. The arcs are regulated by a simple pendulum arrangement, instead of requiring the complicated feed mechanism of the usual carbon rods. The lamp, which is to be used in horizontal position, casts no shadow.

A new process of engraving photographs on metal is claimed by J. Patterson and W. Dickson, of Edinburgh. The clean and polished metal is coated with a hot solution of 3 ounces of fish glue in 8 ounces of water, to which 5 scruples of bichromate of ammonium has been added; and when this coating is cool it is printed by exposure to light under a photographic negative. The coating or enamel is then heated by a gas stove or spirit lamp until given a rich brown color. The metal under the unhardened parts of the enamel is then chemically etched, and the design is given sharpness by burnishing.

Insanity is not largely due to mental worry, according to Dr. Clouston, of the Royal Edinburgh asylum. He traces only 11.5 per cent of the cases to this cause, bodily affections, drink, faulty development, etc., being the chief sources.

To produce flexible transparent plates not easily broken and proof against acids and alkalis, it is recommended to dissolve four to eight parts of collodion wool (soluble pyroxilin or gun cotton) in 1 part of ether or alcohol, and mix the solution with 4 parts of castor oil and 4 to 6 parts of Canada balsam. A little zinc white gives the appearance of ivory. The inflammability is claimed to be less than that of other collodion plates, and is made still less by magnesium chloride.

A new species of petrel and a new seal gull are discoveries by A. Searle on the Hawaiian island of Kauai.

## THE CONVENTION'S WORK COMPLETED.

Great Enthusiasm When Stevenson Was Nominated.

### HE WAS A STRONG FAVORITE

When It Became Apparent That Hill Was Out of the Race—At the End the Nomination Was Made Unanimous.

Kansas City, Mo., July 7.—The Democratic ticket was completed Friday by the nomination of Adlai E. Stevenson. The nomination was made on the first ballot, state after state joining in the scramble to award their support for the winning candidate.

On the call for nominations, Alabama yielded to Minnesota, and the latter state presented its young champion of silver Republicanism and Democracy, Charles A. Towne. The mentioning of his name was the signal for a flattering demonstration in his honor, men and women joining in the outburst. Far off in the corner of the auditorium a young woman could be seen frantically waving in one hand a lithograph of the Minnesotan and in the other the stars and stripes. On the floor the Nebraska, Minnesota and one or two delegations joined in the demonstration, but it was noticeably that it did not evoke any widespread enthusiasm among those who were about to do something. Gradually other delegates began to rise, some of the New Yorkers getting to their feet, and for a moment it looked as though the convention might be carried off its feet. But against this was heard a counter storm of protestation and discordant hisses. For ten minutes the demonstration to Towne lasted with varying degrees of intensity.

Meantime attention was being directed to an excited group massed in front of the New York section, with Hill as the vortex of a struggling throng of delegates. They pressed forward from all quarters of the hall, urging him to permit his name to be placed before the convention. The face of the New Yorker was a study, as the demands upon him came from all sides. He sat in the front row of delegates, with ex-Senator Murphy on his right and Judge Van Wyck on his immediate left. A second seat away was Mr. Croker. Hill protested vociferously. Judge Van Wyck said he could not refuse. Mr. Murphy and Croker pleaded with him to obey the will of the convention and accept. While the pleadings continued the call of Delaware was heard above the roar, and Delaware yielded her place to New York. At this the bulky form of Senator Grady, the silver tongued orator of New York, pushed through the densely packed aisles up to the platform. There was a hush through the hall to hear what that New Yorker had to offer.

"In behalf of the united Democracy of New York," shouted Grady, "I present as a candidate for vice president the name of David Bennett Hill."

The effect was electrical and a tidal wave of enthusiastic approval swept over the convention. Delegates stood on their chairs and waved frantically, not in a few scattered groups, but in solid phalanxes. Flags and standards were again mingled in triumphal procession, while a roar as from Niagara pulsed through the great structure. Grady stood there proudly waiting for the storm to subside. But as he waited the audience observed a strange pantomime. They saw Hill leave the New York delegation and push through the throng to the platform. They could hear him appeal to Grady to withdraw, while Grady's answer was apparent from the shake of his head and his advance to the front of the platform to continue his nominating speech. But as he stepped from the platform the man who had just been placed in nomination took his place. The senator looked out sternly, even savagely, on the shouting thousands. When he could be heard he made due acknowledgment of the honor done him. "But I cannot, I must not, be the nominee of this convention," he declared with explosive emphasis. He was frequently interrupted with enthusiastic shouts of approval, but when he left the platform the delegates were firmly convinced from his words and manner that he was sincerely desirous of having his name withheld. It is probably this alone which prevented a nomination by acclamation then and there, for the tempestuous spirit manifested showed that the convention was on the point of being carried off its feet.

It was soon apparent that with Hill out, Stevenson was a strong favorite. State after state seconded his nomination—Georgia, Indiana, Virginia, Iowa, Kentucky, Illinois. Some of the devoted friends of Hill still maintained their allegiance to him, and the delegates of New Jersey, Louisiana and some others, seconded his nomination. A number of favorite sons also were placed in nomination, Maryland bringing forward Gov. John Walter Smith; Washington naming James Hamilton Lewis; North Carolina nominating Col. Julian Carr and Ohio presenting the name of A. W. Patrick.

It was after 2 o'clock, when the second round speeches, some of them wearisome, were concluded and the balloting began. As the roll was about to be called Mr. Lewis appeared on the platform and in a few well chosen words withdrew from the contest.

The vote was followed with intense interest, for when Alabama announced 3 for Stevenson and 19 for Hill it looked as though a close and exciting contest was to occur.

But it was soon evident that Stevenson

had a strong lead. At the close of the call he had 559 1/2 votes, which, however, was not enough to nominate, the requisite two-thirds being 624. Hill had received 200 votes and Towne 89 1/2. But before the announcement of the result a strong lunge delegate from Tennessee stood on his chair and announced: "Tennessee changes her 24 votes from Hill to Stevenson." That started the tide irresistibly toward Stevenson. From every quarter of the hall came demands for recognition. Alabama changed to Stevenson, California did the same. North Carolina changed from Carr to Stevenson. Even New York finally and reluctantly announced its change from Hill to Stevenson. That ended it. Stevenson's nomination was assured, although for some time longer the various states continued to record their changes from Towne and other candidates to Stevenson. In the end of the nomination was made unanimous. Its announcement was greeted with enthusiastic applause, and again state standards and banners were borne about the building in tribute to the party nominee.

## NOMINATION FOR VICE PRESIDENT

Was Not Made by the Silver Republicans.

### BRYAN BY ACCLAMATION.

The National Committee Will Name the Man For Second Place—Towne Refused To Be Nominated.

Kansas City, July 6.—W. J. Bryan was nominated for president by acclamation by the Silver Republican convention.

The delegates to the Silver Republican convention were very late in assembling this morning notwithstanding practically all the important work of the convention was scheduled for today. It was past 10 o'clock when Chairman Brown rapped for order.

A committee was appointed to invite former assistant secretary of the Interior Webster Davis to address the convention.

The committee on resolutions reported and D. C. Tillotson, of Kansas, read the party's principles.

After recognizing the principles set forth in the Declaration of Independence, the platform declares against the present standard of currency. The currency plank says in part:

"Since the St. Louis convention a Republican president at the dictation of the trusts and money power has passed and approved a currency bill which in itself is a repudiation of the doctrine of bimetalism advocated theretofore by the president and every great leader of his party. "This currency law destroys the full money power of the silver dollar, provides for the payment of all government obligations and the redemption of all forms of paper money in gold alone—retires the time honored and patriotic greenbacks, constituting one-sixth of the money in circulation and surrenders to banking corporations a sovereign function of issuing all paper money, thus enabling these corporations to control the price of labor and property by increasing or diminishing the volume of money in circulation, thus giving the banks power to create panics and to bring disaster upon business enterprises. The provisions of this currency law making the bonded debt of the republic payable in gold alone changes the contract between the government and the bondholders and is in direct opposition to the declaration of the Matthews resolution passed by congress in 1878, for which resolution the present Republican president, then a member of congress, voted, as did also all the leading Republicans, both in the house and senate.

"We declare it to be our intention to lend our efforts to the repeal of this currency law which not only repudiates the ancient and time honored principles of the American people before the constitution was adopted, but is violative of the principles of the constitution itself and we shall not cease our efforts until there has been established in its place a monetary system based on the free and unlimited coinage of silver and gold into money at the present legal ratio of 16 to 1 by the independent action of the United States under which system all paper money shall be issued by the government and all debt public and private without exception. We are in favor of a graduated tax upon incomes and if necessary to accomplish this we favor an amendment to the constitution."

Trusts and monopolies are then given a dab. The Porto Rican tariff law and the war tax was then attacked.

After the reading of the platform the convention then adjourned until 3:30 p. m., after passing a resolution making every delegate a member of a committee to attend the Democratic convention and word for the nomination of Towne for vice-president. At 3:30 the convention reassembled and commenced the discussion of the respective merits of the various vice-presidential candidates.

The convention wanted to nominate Towne for the vice-presidency but he came into the convention hall and urged them not to do so and urged the delegates to support the Democratic ticket. He said:

"The Silver Republicans have made a good fight. They have been defeated, but," he said, "it is your duty to support the ticket nominated by the national Democratic convention."

After much confusion the convention adjourned sine die without naming a mate for Bryan.

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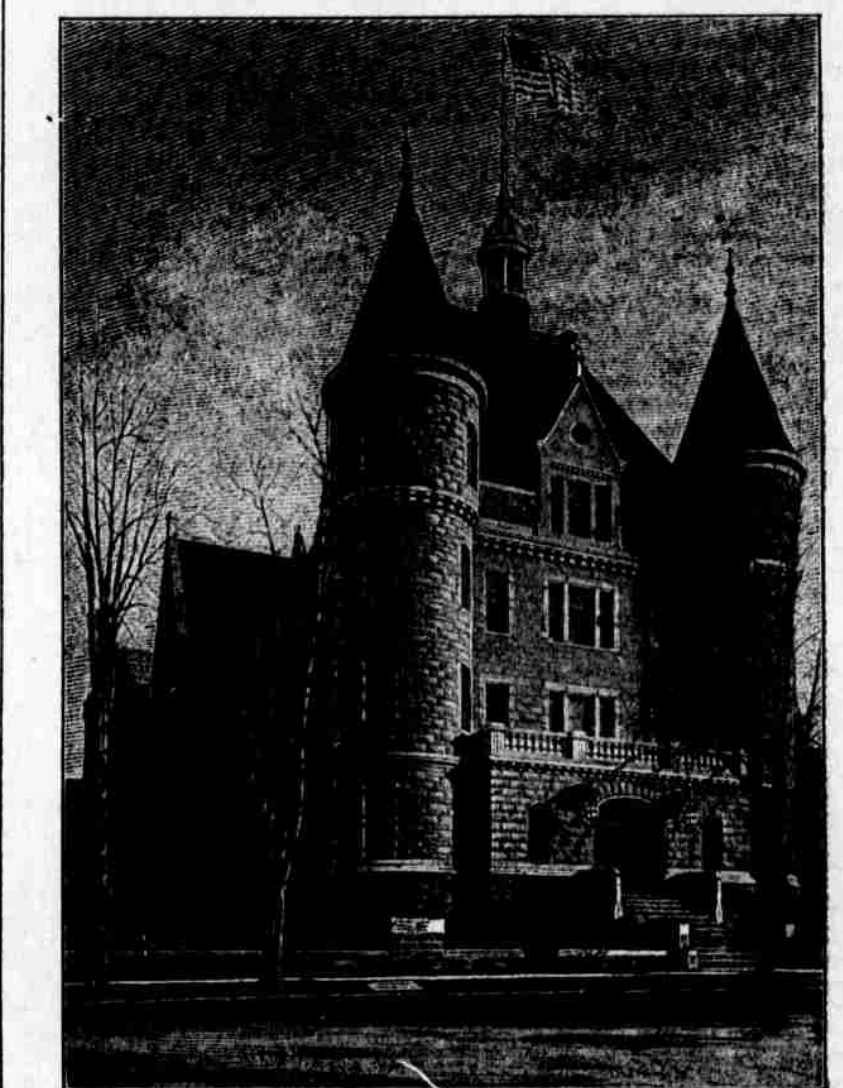


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**Attachment Notice.**  
George Shaffer, Pitt. Before Jos. Calmelat, Jos. Birdsell, Deft. J. F. of Canton Wp., Ohio. On the 2nd day of June, A. D. 1900, said justice issued an order of attachment in the above action for the sum of four dollars and ninety cents (\$4.90).  
Canton, Ohio, June 28, 1900.  
(35) GEORGE SHAFER.

**TO STATIONARY ENGINEERS.**  
All engineers in District No. 8, comprising the counties of Trumbull, Mahoning, Columbiana, Jefferson, Harrison, Carroll, Stark, Portage, Summit, Wayne, Holmes, Knox, Ashland and Richland are required by law to apply to the district examiner for their blank applications for license.  
ELMER E. MILLER,  
Deputy Examiner  
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